CLAIMS

1. A vacuum chamber in which an induction furnace is disposed to inductively heat or melt an electrically conductive material placed within the crucible of the induction furnace by generating a magnetic field around an ac current carrying induction coil disposed around the exterior of the induction crucible and inside the vacuum chamber, the improvement comprising:

an at least a portion of the wall of the vacuum chamber penetrated by the magnetic field during operation of the induction furnace comprises an inner layer of a copper composition and an outer layer providing a means of structural support for the wall.

2. The vacuum chamber of claim 1 wherein the thickness of the inner layer is at least equal to one standard depth of penetration of eddy current induced from the penetration of the magnetic field.

3. A method of forming a vacuum chamber in which an electrically conductive material in the crucible of an induction furnace disposed within the vacuum chamber is inductively heated or melted by passing an ac current through an induction coil surrounding the exterior of the induction furnace and inside the vacuum chamber to generate a magnetic field that magnetically couples with the electrically conductive material, the method comprising the step of forming at least a portion of the wall of the vacuum chamber penetrated by the magnetic field during operation of the induction furnace from an inner layer of a copper composition and an outer layer providing a means of structural support for the wall.

4. The method of claim 3 further comprising the step of making the thickness of the inner layer at least equal to one standard depth of penetration of eddy current induced from the penetration of the magnetic field.

5. A vacuum chamber in which a susceptor is disposed to heat a material placed within the susceptor by generating a magnetic field around an ac current carrying induction coil disposed around the exterior of the susceptor and inside the vacuum chamber to inductively heat the susceptor, the improvement comprising:

an at least a portion of the wall of the vacuum chamber penetrated by the magnetic field during inductive heating of the susceptor comprises an inner layer of a copper composition and an outer layer providing a means of structural support for the wall.

6. The vacuum chamber of claim 5 wherein the thickness of the inner layer is at least equal to one standard depth of penetration of eddy current induced from the penetration of the magnetic field.

7. A method of forming a vacuum chamber in which a material placed within a susceptor is

heated in the susceptor disposed within the vacuum chamber by the method comprising the steps of: inductively heating the susceptor by passing an ac current through an induction coil surrounding the exterior of the susceptor and inside the vacuum chamber to generate a magnetic field that magnetically couples with the susceptor; and forming at least a portion of the wall of the vacuum chamber penetrated by the magnetic field during inductive heating of the susceptor from an inner layer of a copper composition and an outer layer providing a means of structural support for the wall.

8. The method of claim 7 further comprising the step of making the thickness of the inner layer at least equal to one standard depth of penetration of eddy current induced from the penetration of the magnetic field.